- WFO Mobile IFPS Training Series -

Question\ Exercise Set #3

Advanced Operations of the Graphical Forecast Editor (GFE)

Part 1 - Populating \ *GFE Grid Manager* Mechanics

1) Within GFE, there are three sensible weather element data types: **a)** scalar **b)** vector and **c)** discrete. Given the list of sensible weather elements below, list which type of data element exactly defines the particular sensible weather type.

Weather	_____	Dewpoint Temperature	_____
Wind	_____	Wind Chill Index	_____
Relative Humidity	_____	Heat Index	_____

2) When populating a single sensible weather element over a specified time range, please describe ***in detail*** the mechanics of this process.

Step 1)

Step 2)

Step 3)

Step 4)

Which Copy Option did you use ? 'Copy Select Grids From' or 'Copy All Grids From' ?

3) Assume that you populated the *GFE Grid Manager* with ETA winds through 48 hours. 1) Would what be the default time resolution that comes straight from the ETA model into the *Grid Manager* ? 2) What action would you take if you needed winds for a time resolution of every 3 hours ? Please describe ***in detail*** the mechanics of this process.

Default ETA 10m wind time resolution ?

Step 1)

Step 2)

Step 3)

Step 4)

4) What does it mean to populate with the model choice (from the menu) termed 'official' ? Is 'official' really a model ?

5) Describe the technical difference in 'fragment grids' and 'split grids.'

6) Which mouse button is used to combine grids in the *GFE Grid Manager* (eg.. making a series of 3 hour grid blocks become a 6 h grid block) ? What do you do if you make it seven hours long, instead of six hours long (ie.. what are the potential fixes (list at least two) ?

7) **** Subjective Question **** - Describe a meteorological situation when you would be more inclined to populate the *GFE Grid Manager* with MOS surface temperatures through the first 48 hours versus the ETA model physical solution.

8) Describe a situation during the grid editing process when you would interpolate by gaps versus when you would be more inclined to interpolate based on edited data.

9) * ***Short Answer*** * - There are three basic ways to populate the grids :

a) 'Copy Select Grids From'; **b)** 'Copy All Grids From' ; and **c)** _____ ?

10) * ***Scenario*** * Let's say that you go into the *GFE Grid Manager* to edit a particular grid element and you cannot make it editable. First, where do you look to find out what type of problem may be occurring ? Secondly, even if you did not look at the place alluded to in the latter question, what would be one of the most obvious things to check (ie.. which *GFE* menu) for ?

11) Will adjacent grids to our CWFA, have an effect on grids in our CWFA if the 'Smooth Edit Action' is used ? Why ?

12) ***Scenario*** Let's say that you need to insert a fast moving cold-season squall line in the 6^{th}-12^{th} hours of the forecast period (ie.. Day 1). The squall line must contain : numerous coverage (60-70 %) of RW- ; scattered (30-50 %) Tstms ; isolated (4 %) hail. How would you go about doing this when these elements do not appear as choices on your discrete element bar at these hours ? What GFE tools to do you have at your disposal once you draw the squall line once (say at the 6^{th} hour) to save massive amounts of time ? [***Hint:*** Think Simple !]

13) Describe the technical difference between a smart tool and an edit action ?

14) * ***Short Answer*** * What programming language are GFE Smart Tools written in ? What are some advantages of this language (of, course refer to the handouts you were given, or research this on the FSL homepage).

Bonus - Brain Teaser What do you think the makes the ETA \ AVN \ MRF physical solution (ie.. non-MOS) POPs sensible weather element ? [***Hint:*** You may have to research this one, but please think about it carefully. Even if you cannot find the exact answer, give it a try. Start with the FSL IFPS Homepage or use your favorite Internet search engine]